Claims:

- 1. A method of treating native tissue of mammalian origin comprising immersing said tissue in a treating solution, and irradiating the tissue with microwave while maintaining the temperature of the tissue in the range between 0° and 40° .
- 2. The method of claim 1 wherein said treatment is decellularization of said tissue, and wherein said treating solution is water, a hypertonic solution, a hypotonic solution, a detergent solution, an enzyme solution, a liquid medium, or a mixture thereof with a small proportion of an organic solvent.
- 3. The method of claim 1 wherein said treatment is chemical fixation of said tissue, and wherein said treating solution is a solution containing glutaraldehyde.
- 4. The method of claim 1 or 2 or 3 wherein said tissue is irradiated with microwave at a frequency of $2450\ MHz$ for a net period of time from 1 hour to 1 week.
- 5. The method of any one of claims 1.4 wherein said native tissue to be treated is soft tissue including vascular vessel, heart valve, heart sac, cornea, amonion and dura.
 - 6. The method of any one of claims 1-4 wherein

said native tissue to be treated is hard tissue including bone, cartilage and teeth.

- 7. The method of any one of claims 1.4 wherein said native tissue to be treated is an organ or part thereof including heart, kidney, liver, pancreas, brain and part thereof.
- 8. The method of claim 2 further comprising the step of washing said tissue with a fresh washing liquid following said irradiation step to remove destructed donor cells.
- 9. The method of claim 2 wherein said native tissue to be treated has been pre-treated to facilitate the removal of donor cells.